

## **Hemoglobin A1c Test**

### **What is the hemoglobin A1c test?**

The hemoglobin A1c test is a blood test used in the care of people who have diabetes. Hemoglobin A1c is a chemical combination of hemoglobin and glucose. Hemoglobin is the part of the red blood cells that carries oxygen. Glucose is a type of sugar in the blood.



The hemoglobin A1c percentage is a way of looking at your average blood sugar level over a period of 3 months. Sugar absorbed from your digestive system circulates in the bloodstream. Some of the sugar combines with the hemoglobin in red blood cells to form hemoglobin A1c. Higher levels of sugar in the bloodstream cause more hemoglobin to be changed to hemoglobin A1c.

Red blood cells live 90 to 120 days. Therefore, once sugar has combined with the hemoglobin in red blood cells, the hemoglobin A1c stays in the blood for 90 to 120 days. This means the amount of hemoglobin A1c in your blood reflects the average sugar concentration in your blood over a 3-month period.

### **Why is this test done?**

Hemoglobin A1c is an excellent way to check how well you are controlling your blood sugar over a 3-month period.

Hemoglobin A1c measurements are important because:

- ♦ They confirm your daily home blood sugar monitoring results.
- ♦ They help predict your risk of diabetic complications. The higher the hemoglobin A1c percentage, the greater the risk of developing diabetic eye, kidney, or nervous system disease.



### **How do I prepare for this test?**

No preparation is necessary. One of the advantages of this test is that you do not have to fast before you take it.

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## How is the test done?

A small amount of blood is taken from your arm with a needle. The blood is collected in tubes and sent to a lab.

Having this test will take just a few minutes of your time. There is no risk of getting AIDS, hepatitis, or any other blood-borne disease from this test.

## How will I get the test result?

Ask your health care provider when and how you will get the result of your test.

## What does the test result mean?

The hemoglobin A1c percentage rises as your average blood sugar level rises. For adult diabetics the results are usually judged as follows:

**7% or less: excellent** blood sugar control

**7.1% to 8.0%: good** control

**8.1% to 9.0%: fair** control

**9.1% or higher: poor** control.

## What if my test result is not normal?

If you have not yet been diagnosed with diabetes and your test is not normal, you need to talk with your health care provider about whether you have diabetes.

If you have been diagnosed as diabetic and your test is not normal, your health care provider will talk to you about how to lower your blood sugar through diet, exercise, and/or medicine. Maintaining blood sugar levels and hemoglobin A1c levels in or near normal ranges will help you avoid the complications of diabetes.

If your test results are not normal, ask your health care provider:

- ♦ if you need additional tests
- ♦ what you can do to work toward a normal value
- ♦ when you need to be tested again.

Developed by McKesson Clinical Reference Systems.

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